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SPECIFICATION

*Convention Date (United States), Oct. 30, 1917.*

*Application Date (in the United Kingdom), Oct. 23, 1918. No. 17,293/18.*

*Complete Accepted, Feb. 27, 1919.*

COMPLETE SPECIFICATION.

Improvements in Mixing-machines.

I, BRYAN DEWES PINKNEY, of Lyric Theatre Building, Cincinnati, Ohio, United States of America, Attorney at Law, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 5 My invention relates to improvements in mixing machines adapted for use in mixing cake ingredients or other suitable materials; and the object of my improvements is to provide a holder for the can, said holder being pivoted so it can be swung away from the vertical standard toward the front of the machine.
- 10 I attain this object by the mechanism illustrated in the accompanying drawings, in which:—  
Figure 1 is a side elevation of my improved mixing machine.  
Fig. 2, a drawing of the latch mechanism in the normal position, the vertical raised position being indicated by dotted lines.  
15 Fig. 3, a drawing of the latch mechanism with the one side raised to its highest position, the dotted lines indicating the latch mechanism raised from the opposite side.
- 20 Similar numerals refer to similar parts throughout the several drawings.  
Referring to the drawings, 1 is the vertical standard at the lower part of which is pivotally mounted the swinging can holder 2, on pivot 3. The can 4 fits loosely in swinging can holder 2, and rotation of the can is prevented by means of lug 5 on the can 4 which fits against a mating lug 6 on the can holder 2. Stud 7 in latch plate 8 fits in a corresponding slot 2<sup>b</sup> with taper side pieces 2<sup>a</sup> in swinging can holder 2 to hold the can 4 rigid while the mixing 25 side pieces 2<sup>a</sup> in swinging can holder 2 to hold the can 4 rigid while the mixing is taking place. Latch plate 8 is pivotally mounted on vertical standard 1 by means of slots 9 pivoting on studs 10, said slots 9 being constructed so that the latch plate 8 can be pivoted at either side, or can be raised vertically (see Figs. 2 and 3). This I accomplish by making the inner face of the slots 9 tapered.
- 30 As the swinging can holder 2 is being swung to central or working position, the taper side piece 2<sup>a</sup> automatically raises the stud 7, thereby raising the latch plate 8, and when said swinging can holder is in the central or working position the stud 7 automatically drops into the slot 2<sup>b</sup>, either by gravity or

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by mechanical means, and thus locks can 4. To swing open the swinging can holder 2, either lift or push down handle 8<sup>a</sup> of latch plate 8, and thus raise the stud 7 out of slot 2<sup>b</sup> so that the swinging can holder 2 may be pivotally swung either to the right of vertical standard 1 or to the left, as the convenience of the operator demands. A pin 11 may be used to limit the outward position of the swinging can holder 2, so that the can 4 does not get into the operator's way. 5

The vertical standard 1 is provided with lugs 12 wherein guide rods 13 are secured. At the top of vertical standard 1 is a speed box, of any suitable design, hence not specified in detail, and a bevel gear cover 14 covering the bevel gear 16 and the bevel pinion 15, said bevel gear 16 being journaled in the head of the vertical standard 1, and provided with a spline (not shown in the drawings which slides in keyway 18<sup>a</sup> of vertical sliding shaft 18. A bracket 19 is slidably mounted on guide rods 13, in which said bracket 19 are internal teeth 19<sup>a</sup>. The vertical sliding shaft 18 projects through bracket 19, and at its lower end is secured the whip bracket 20, in which is journaled shaft 21, rigidly provided at its upper end with a pinion 22 intermeshing with the internal teeth 19<sup>a</sup>, and near its lower end with a rigid whip driver 23. As the vertical sliding shaft 18 rotates the shaft 21 rotates in a concentric circle, due to the intermeshing of the teeth of pinion 22 with the internal teeth 19<sup>a</sup>, and this is the principle of the so-called planetary gearing. Fitting loosely on the end of shaft 21 and interlocked with the driving slots 23<sup>a</sup> of whip driver 23 is a whip or beater 24 of any familiar design, hence not specified in detail, said whip or beater 24 being lowered in or raised out of can 4 by any suitable means, such as for example, by screw 25 screwed in lug 19<sup>b</sup>, and mounted in the upper part of vertical standard at 1<sup>a</sup> and actuated by mitre gears 26, shaft 27, and handwheel 28, or any other suitable means. On vertical sliding shaft 18 is secured the collar 29, which acts as a thrust bearing at its lower part and as an oil drip at its upper part, for, on account of the vertical sliding action, a lubricant is necessary to prevent abrasion. 30

The speed box is located at the top part of vertical standard 1, and is provided with a lid 30 for access to the gearing and shifting mechanism. Lid 30 may be hinged on a stud 31, or may simply be laid on the top of the vertical standard. Shaft 32 is the constant driven shaft, and is driven by any suitable means, such as for example, by the pulley 33. Speed change gear 40, and 35 speed change gear 41 are rigidly secured to speed change shaft 42, at the lower end of which is rigidly secured the bevel pinion referred to.

The operation of my improved mixing machine is as follows:—

The ingredients to be mixed are placed in the can 4, and, the power being applied to the constant driven shaft 32, on which are speed change gears, of 40 any suitable design, hence not shown in detail, a speed change gear is caused to mesh in either speed gear 40 or 41, according to what rate of speed is required. For beating up the whites of eggs and similar batches the highest speed is desirable; for mixing stiff batches the slowest speed is desirable. This causes the speed gear shaft 42 to rotate, and the power is transferred to 45 vertical sliding shaft 18 through the means of bevel pinion 15, bevel gear 16, and spline 17. Rotation of vertical sliding shaft 18 causes the whip bracket to rotate, and as said whip bracket 20 rotates the pinion 22 is caused to rotate due to the intermeshing with the internal teeth 19<sup>a</sup>. As pinion 22 rotates the shaft 21 also rotates, and so does the whip driver 23 and whip or beater 24. It 50 will be noticed that although the whip or beater 24 rotates in relation to shaft 21, it has also a movement concentric with the vertical sliding shaft 18. This imparts a most thorough mixing and stirring action to the whip or beater. After the batch is mixed the vertical sliding shaft 18 is raised by means of the handwheel 28 and co-operating parts, the whip or beater 24 removed from the 55 whip driver 23, and the can swung away from the vertical standard 1 and contents removed.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In a mixing machine, a vertical standard in combination with a can holder pivoted at the front of the machine so as to swing away from said vertical standard.
2. In a mixing machine, a vertical standard in combination with a can holder pivoted at the front of the machine so as to swing away from said vertical standard, a latch plate connected with said vertical standard, and co-operating latch means connected with said can holder.

Dated this 23rd day of October, 1918.

RAYNER & Co.,  
5, Chancery Lane, London, W.C. 2,  
Agents for the Applicant.

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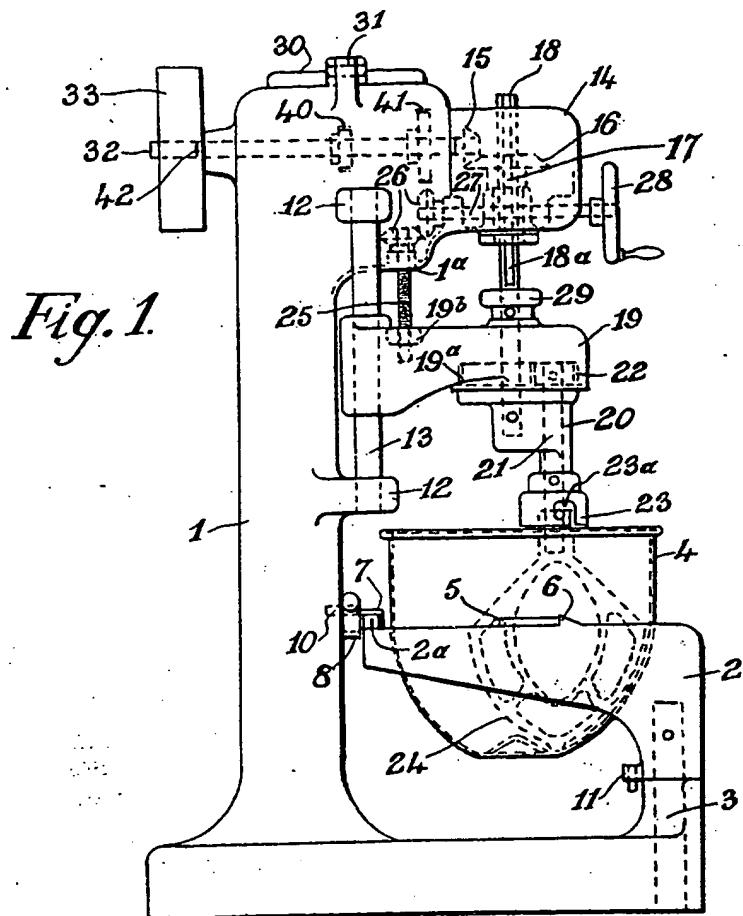


Fig. 1.

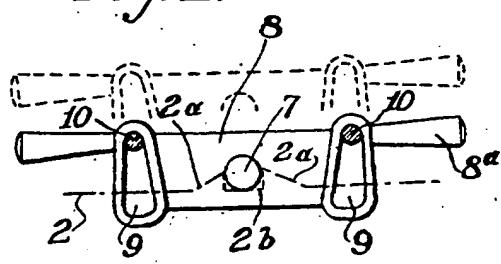


Fig. 2.

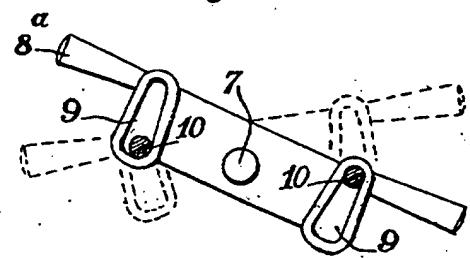


Fig. 3.